

From: [Kirby Tyndall](#)
To: [Gary Miller/R6/USEPA/US@EPA](#); [Eric Pastor](#)
Cc: [Dipanjana Bhattacharya/R6/USEPA/US@EPA](#)
Subject: RE: Gulfco HHRA Comments
Date: 01/21/2010 04:34 PM

Hi Gary and Dipanjana,

I'm sending a couple of questions and comments in response to your comments that we would like clarified prior to our completing the revised BHHRA. If possible, it would be great if we could have a conference call tomorrow so we can resolve these quickly and I can get moving on the revisions. I am available any time tomorrow. Also, please note that these are only the comments we were unsure how to address. The other comments were clear to us as written and/or based on our phone call yesterday, and we will make revisions according to the request of the comment.

General Comments:

3. Screening of chemical concentrations against their corresponding background values was performed in the Draft BHHRA. Chemicals detected at the site and deemed less than their corresponding site background concentration were not evaluated further in the Draft BHHRA. Background screening is a source of significant uncertainty in a risk assessment. Background screening shall not be conducted and chemicals shall not be eliminated without further analysis in the risk assessment. EPA guidance recommends, and the BHHRA shall include, a comparison to background, such as an evaluation of potential background risk in the uncertainty section.

Response: As discussed on a January 20, 2010 call with Gary Miller and Dipanjana Bhattacharya, RAGS (EPA, 1989) says that "If inorganic chemicals are present at the site at naturally occurring levels, they may be eliminated from the quantitative risk assessment." This was done in the BHHRA and we believe that it appropriate given the relatively low levels of inorganic compounds found at the Site and that the facility is not a "metals" site. During the call, EPA indicated that this comment could be addressed by revising Section 2.2.2 to indicate that background screening was done according to RAGS page 5-19 and only eliminates naturally occurring compounds that were determined to be statistically no different than background soils.

4. Each medium was evaluated separately in the Draft BHHRA. Total risks for each receptor were not summed across media; thus, characterization of potential risk is not complete. Risk across media should be performed (EPA 1989, 2002) to allow the assessment of potential risks for each receptor of concern.

Response: We would like to discuss this comment for additional clarification because, while it makes sense for some pathways and receptors, it does not make sense for others and we believe add confusion to writing remedial action objectives.

5. Information in the tables of the report was difficult to locate at times based on table



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format. Table formats shall be revised to follow the EPA-recommended table format (EPA 2002).

Response: Per discussions on January 20, 2010 with Gary Miller and Dipanjana Bhattacharya, it is our understanding that this comment is being withdrawn and the table formatting does not need to be changed.

Specific Comments:

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1. Section 2.2; pages 10-13: The discussion in Section 2.2 concerning the screening process is somewhat confusing. A diagram shall be included to clarify the process. This would save time and further confusion when the Record of Decision is written.

Response: Based on our discussion on January 20, 2010 and the diagram Dipanjana Bhattacharya sent us today, we will send a preliminary diagram to her as a follow up, prior to finalizing the report to ensure that we have satisfied EPA's request.

3. Section 2.2.2. page 12; and Appendix B: The background analysis was performed based on the calculation of 95-percent upper confidence limits (UCL) on the mean using the ProUCL program. The current version of ProUCL calls for the indication of non-detects in the input file and does not include these samples as detects in the calculations (EPA 2009). The latest version of ProUCL shall be used and the non-detects should be treated appropriately.

Response: We would like to discuss this comment. Based on running the newer ProUCL with the South Area soil data, estimated 95% UCLs and associated risks are lower. While we are happy to incorporate these lower exposure point concentrations into the risk assessment, we would like to discuss the implications this may have on the Screening Level Ecological Risk Assessment since this was not a comment in that report and the data should be handled the same.

7. Section 3.1.4; page 17: A risk assessment that was performed for fish ingestion concluded that recreational fishing does not pose a threat due to exposure to the site; this risk assessment was accepted by EPA. The Draft BHHRA extends this assumption to shellfish ingestion. Although the exposure scenarios are comparable, the uptake and bioaccumulation by shellfish is not the same as in fish. The uncertainties with the lack of quantitative analysis of shellfish shall be discussed in the uncertainty section. Although a ban is in existence, it is not based on chemical concentrations in shellfish; therefore, it is important to properly assess shellfish concentrations and their potential risks to humans.

*Response: We agree with the comment that bioaccumulation of fish and shellfish are not the same. Shellfish can be either crustaceans or mollusks. Crabs, a crustacean, were analyzed during the tissue study and evaluated in the risk assessment. Crabs (specifically blue crabs or *Callinectes sapidus*) were selected and approved by EPA as the representative shellfish for the study because of their relative desirability as a target species by fishermen, and likely greater abundance in the habitat present near the Site. Other crustaceans and mollusks*

were not considered because they are not known to be caught/harvested in the area. Furthermore, it is unlikely, given the routine dredging of the Intracoastal Waterway, that oysters or clams would be present near the Site. Text clarifying these points will be added to the BHHRA.

11. Sections 5.3 and 5.4, page 32: A full risk characterization calculation was not performed for the contact recreational and off-site residential scenarios. Instead, a ratio comparison to their respective PCLs was performed. Without calculating an actual potential risk, it is not possible to assess total risk for these receptors across media. Risk characterization calculations shall be performed for all potentially complete pathways.

Response: We believe that it is unnecessary to calculate risks for compounds that screen out during the screening process as they provide a de minimus risk, per EPA guidance (EPA, 1989). If all compounds in a given media screen out, which is the case for off-site residential and contact recreational scenarios, it seems logical that these compounds and media are not included in the quantitative risk assessment, which is why they were not quantitatively evaluated in the risk assessment. We will add text in Sections 5.3 and 5.4 as well as the uncertainty section to clarify this explanation.

12. Section 6; page 34: The BHHRA shall include a comparison of on-site data to background in the uncertainty section. Further, several assumptions made in the BHHRA shall be discussed as to their associated uncertainty. These include the lack of risk analysis for shellfish and the assumption that ground water does not discharge to surface water, as well as the limited chemical set for which analyses were run for several media.

Response: Per General Comment 3, we will clarify the text in Section 2.2.2 to indicate why and how the background screening was performed. This explanation will also be added to the uncertainty section and specific compounds found to be present at statistically similar concentrations in site and background data sets will be noted. Text on page 16 (Section 3.1.3) noting that impacted groundwater does not discharge to surface water will be added to Section 6 although we do not believe this imparts uncertainty in our analysis. In addition, text will be added to address shellfish as discussed in Specific Comment 7. We request clarification as to which media the commenter believes to have limited analysis since, per the RI/FS Work Plan, comprehensive analysis were performed on all media except fish tissue, and the fish tissue analyte suite was developed with EPA input.

13. Section 7; page 39: The conclusions section shall discuss each potential receptor and indicate if there is a concern for their exposure to the site. This cannot be performed until risks are summed for each receptor across media in order to assess a total potential risk for all exposure pathways.

Response: As with General Comment 4, we would like to discuss summing across media prior to finalizing the risk assessment.

14. Tables 4, 11, and 12: The Intracoastal Waterway (ICWW) is tidal and so by definition is a

sustainable fishery (§307.6(d)(5)(D)). The TSWQS salt water fish criteria apply, and the tables and BHHRA shall be revised to include these criteria. Regarding the wetlands, they are salt water wetlands. Per Table 3-1 of TRRP-24 guidance, salt water wetlands (both permanently inundated and not) need to meet the TSWQS salt water fish criteria, and the tables and BHHRA shall be revised to include these criteria. Regarding the two freshwater ponds, based on the available information, both of these ponds are perennial. Both appear to be less than 50 surface acres, and therefore would not be sustainable fisheries by definition (§307.6(d)(5)(C)). However, since they are perennial, they should be evaluated as incidental fisheries (§307.6(d)(6)), and the TSWQS salt water fish tissue values multiplied by 10 will apply, and the tables and BHHRA shall be revised to include these criteria.

Response: We calculated site-specific risks for the fish ingestion pathway per EPA regulations and guidance, which concluded that fish consumption does not present an unacceptable risk. It seems unnecessary and a step backward to screen the water concentrations against water quality criteria established for this same pathway. We do not believe that the Fresh Water Pond and Small Pond (both contain brackish water) are incidental fisheries. The Small Pond dries up during dry periods, and is less than 6 inches deep most of the time while the Fresh Water Pond is a hydrologically isolated borrow pit that, to our knowledge, is not used for fishing and does not contain desirable fishing species. Surface water in the wetlands was evaluated in the ecological risk assessment. We request clarification on these issues as well as how Table 3-1 relates to salt water fish criteria.

I look forward to discussing these with you! Thank you!

Kirby

From: Miller.Garyg@epamail.epa.gov [mailto:Miller.Garyg@epamail.epa.gov]
Sent: Wednesday, January 20, 2010 1:52 PM
To: Eric Pastor; Kirby Tyndall
Cc: Bhattacharya.Dipanjana@epamail.epa.gov
Subject: Gulfco HHRA Comments

Eric,

The comments are as follows:

General

1. EPA
2. EPA
3. EPA
4. EPA
5. EPA

Specific

1. EPA
2. TCEQ/EPA
3. EPA
4. EPA
5. EPA
6. EPA
7. EPA
8. TCEQ/EPA
9. TCEQ/EPA
10. EPA
11. EPA
12. EPA
13. EPA
14. TCEQ/EPA
15. TCEQ/EPA

Regards,

Gary Miller, P.E.
Remediation Project Manager
EPA Region 6 - Superfund (6SF-RA)
(214) 665-8318
miller.garyg@epa.gov